JPSD Experiment

FOM Status - Presented at AMG-10
March 6, 1996

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FOM Development Process

- Started with existing well-defined scenario
  - Translated JPSD Interface Requirement Specification (IRS) to OMT format
  - Refined JPSD Interest Mgmt. scheme (multicast groups) to HLA IM scheme
- Tools
  - Manual entry into Excel Workbook. Tedious and hard to maintain due to multiple views of the same data. (Majority of time spent here)

Resulting Product

Entity	Platform	Land	Tank	M1
				T72
				T54
			ArmoredFightingVehicle	BMP-1
				BTR80
			SelfPropelledArtillery	M270_ATACMS
				M109
			SmallWheeledUtilityVehicle	M577A1
		Air	AttackHelicopter	AH64
				RAH66
			ElectronicWarfare	JSTARS
			UAV	HUNTER_2GEN
	Munition	AntiArmor	Guided	BAT_P3I
		BattlefieldSupport9	ATACMS_MISSILE	

DIS-like Data Representation

Class attributes are minimal fields of EntityState PDU for each entity type

Interactions are used for sporadic PDUs, Tactical Messages, hand-off to engineering models, and Aggregation/Disaggregation

Resulting Product (Cont.)

Component Table specifies mapping between Aggregate and Entity representation (specifies ModSAF CLCGF template definitions)

RED_TANK_CO [9]	T54 [10]
	BTR80 [3]
RED_TB_PLUS [18]	BMP-1 [10]
	T72 [30]
BLUE_MECH_DIV_CP [1]	M1 [5]
	M577A1 [12]

Data structure table defines complex attributes

DataStructure	Field	Datatype
RE_Reference	Title	string
	Originator	string
	Day	short
	Hour	short
	Minute	short
	SerialNumber	string
	SpecialNotation	string
	NASlScode	string
	Ampn	string
	Narr	string

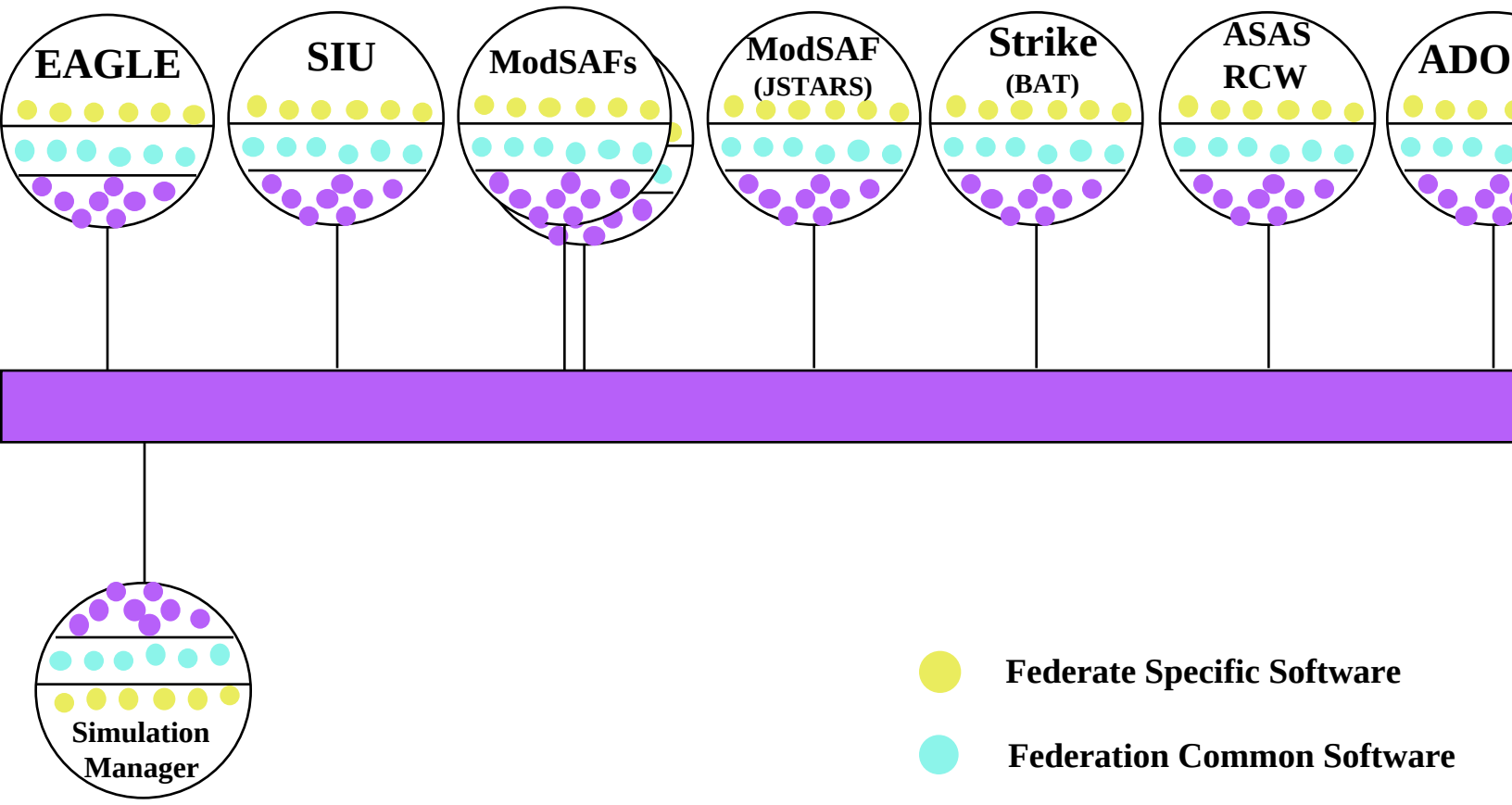
Lessons Learned

- FOM Development process is straight-forward if the scenario is predefined with well understood Interactions and Entities
- FOM Dev. Process adequately covers Entity, Aggregate, and Engineering sims, and live Command and Control systems
- Need to define FRED to accommodate publication/subscription information
- Tools to automate FOM development (data population) are needed

Preliminary Lessons Learned (Integrating J-MASS)

- Identified three approaches of integrating a Federate with a disparate Data Representation (DR) into a FOM
  - Case 1: Modify new Federate to publish & subscribe in conformance with FOM
  - Case 2: Extend FOM to include SOMs entities and attribute representation & Perform Subscription based translation at all interested Federates
  - Case 3: Extend FOM to include SOMs entities and attribute representation & develop translator Federate to negotiate between Federate Data Representations

JPSD HLA Experiment

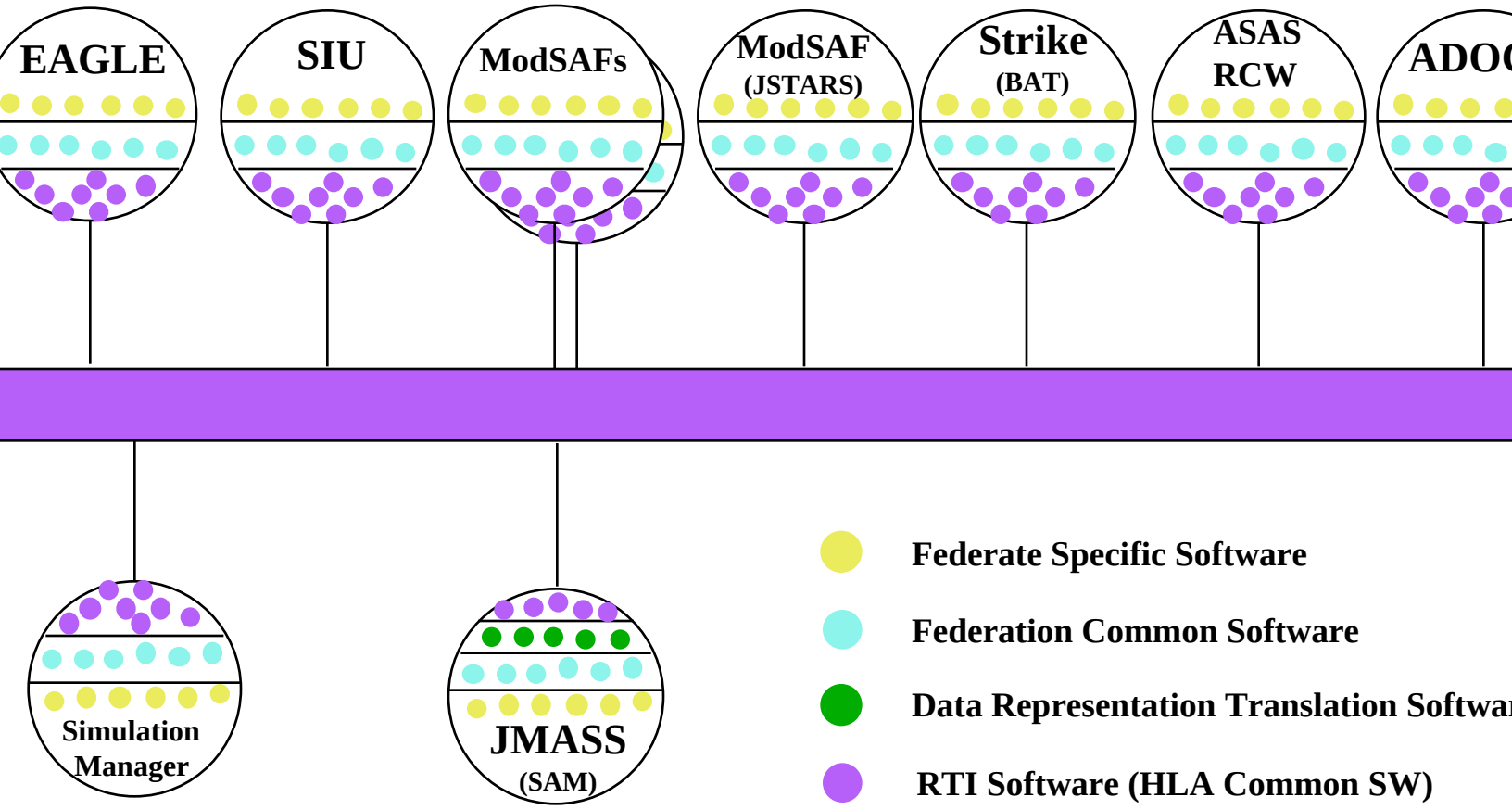


Federate Specific Software

Federation Common Software

RTI Software (HLA Common SW

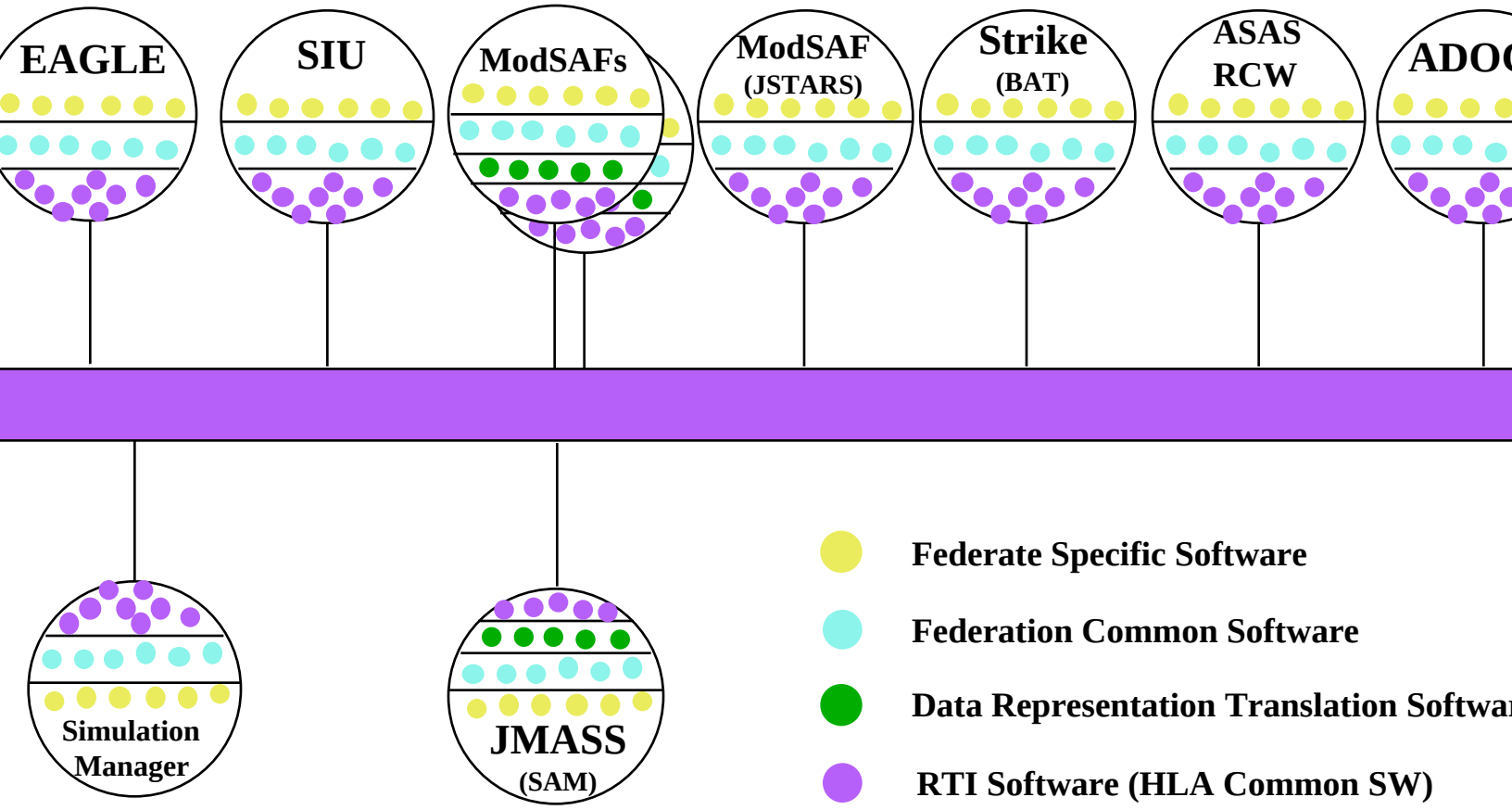
JPSD Experiment Augmented



Case 1: Disparate Federate Publicatio
& Subscription based translat
(Changes to disparate Federat
No changes to FOM)

ther Investigate Multi-level Interaction
ther investigate ownership management
ess ease/approaches of integrating other FOMs

JPSD Experiment Augmented



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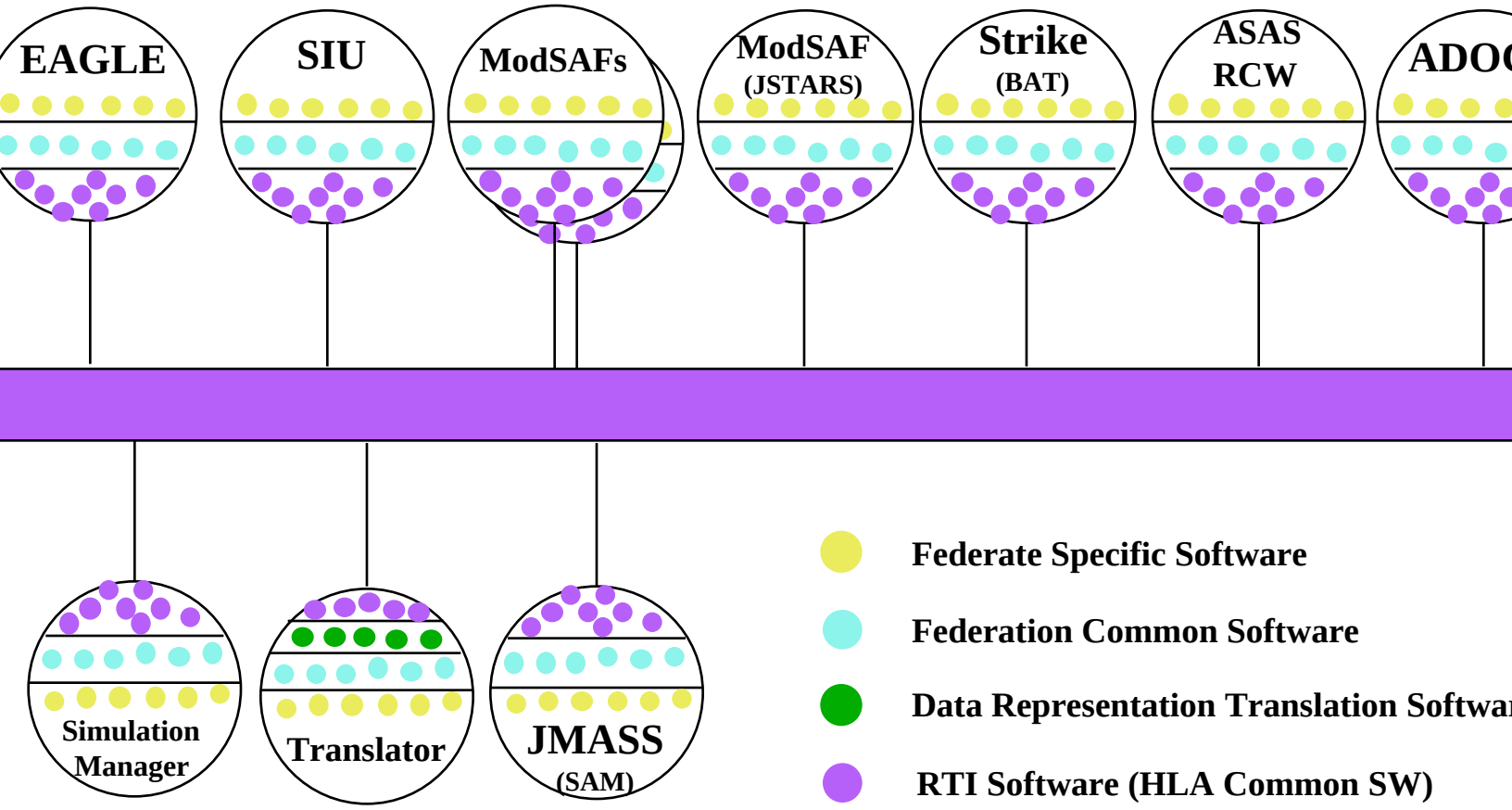
Case 2: Subscription-based translatio (Changes to all Interested Federates & Changes to FOM

JPSD Experiment Augmented



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Case 3: DR Translator Federate (No changes to Federates / Changes to FOM)